

IN THE CLAIMS:

- 1 1. (Original) A fluid controlling assembly for use in a direct oxidation fuel cell,
2 which fuel cell has an anode chamber and a cathode chamber, the assembly comprising:
3 an adjustable component at least a portion of which is disposed within the cathode cham-
4 ber of the fuel cell, and said component, when adjusted, regulates the rate at which fluids
5 travel into and out of the cathode chamber of the fuel cell.

- 1 2. - 6. (Cancelled)

- 1 7. (Original) A fluid controlling assembly for use in a direct oxidation fuel cell,
2 comprising:
 - 3 (i) a first component that includes an aperture disposed in a cathode chamber
4 of the direct oxidation fuel cell; and
 - 5 (ii) a corresponding second component such that placement of the first com-
6 ponent relative to the second component results in an opening that permits the
7 flow of fluids therethrough, and when closed restricts the flow of fluids into the
8 cathode chamber.

- 1 8. (Original) The fluid controlling assembly as defined in claim 7 further compris-
2 ing said first and second components are generally planar components that include corre-
3 sponding apertures, which when aligned create openings and said first and second com-
4 ponents can be adjusted relative to one another to control the rate of fluid flow through
5 said openings.

- 1 9. (Original) The fluid controlling assembly as defined in claim 8 further compris-
2 ing said apertures of said first and second components being lined with a gas permeable,
3 liquid impermeable film that controls the rate of flow of oxygen therethrough to control

4 the cathode reactions, yet restricts the flow of liquid water therethrough such that humid-
5 ity is maintained within the cathode chamber.

1 10 (Original) The fluid controlling assembly as defined in claim 7 further compris-
2 ing a control system for variably actuating the position of at least one of said first and sec-
3 ond components of said fluid controlling assembly.

1 11. – 26. (Cancelled)

1 Please add new claim 27 et al.

1 27. (New) A fluid controlling assembly for use in a direct oxidation fuel cell, which fuel
2 cell has an anode chamber and a cathode chamber, the assembly comprising:

3 an adjustable component at least a portion of which is disposed within the cathode
4 chamber of the fuel cell, and said component, when adjusted, regulates the rate at which
5 fluids travel into and out of the cathode chamber of the fuel cell to regulate hydration of a
6 catalyzed membrane located at a boundary between the anode chamber and the cathode
7 chamber.

1 28. (New) The fluid controlling assembly of claim 27, wherein the adjustable component
2 further comprises a first component and a second component which are generally planar
3 components that include corresponding apertures, where when aligned create openings
4 and the first and second components can be adjusted relative to one another to control the
5 rate of fluid flow through the openings.

1 29. (New) The fluid controlling assembly of claim 27, wherein the fluid is water or water
2 vapor.

1 30. (New) The fluid controlling assembly of claim 27, wherein said fluid is oxygen or air,
2 and said component is adjusted to keep the membrane properly hydrated.